



SDI Review Form 1.6

Journal Name:	British Journal of Applied Science & Technology
Manuscript Number:	2015_BJAST_17358
Title of the Manuscript:	STRUCTURAL BEHAVIOR OF WEIRS WITH BOTTOM CIRCULAR OPENINGS
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	- Weirs are important hydraulic structures which are widely used for many purposes. Recently, due to the expansions of agriculture areas, the need for irrigation water increased, and hence there is a need to increase the discharge passing through canals. In canals with weir systems, it will be very costly to reconstruct the weirs along the canals. That gives great importance to study weirs with openings to increase the discharge passing through the weirs. Generally speaking, for the design purpose, the discharge is known value, because it is a natural event. What do you mean "increase the discharge"? Aims: In this research, the structural behavior of weir with one bottom circular opening at the middle of the standard Fayoum weir was studied. What does it mean? - Diameter of pipe, d (m) is not so sensitive for max compression stresses, total deformation, and max total deformation in the corresponding tables, that is why the corresponding regressing curves are not fitted so well in the relative figures. Is it meaningful to analyse the phenomena with diameter as a factor? - In fig. 8, does the shear stress meet the following relationship with discharge $Q=AV$? $\tau_d=0.5Cd \rho AV^2$ (drag) $\tau_f=0.5Cf \rho AV^2$ (friction)	- The same previously designed canal is now aimed at conveying larger discharges due to additional agricultural lands served by the canal. This is the reason for increase of discharge. - Weir under consideration is a type of rectangular weirs. The aim is to predict stresses on the weir body if we modify it by making a circular opening in the weir. The location of the opening is in the middle of the weir width and has the same bed level of the canal. - The scope of the study is to find the impact of introducing a pipe in the weir on stress distribution. Hence, the diameter should be taken as a factor. - No, the shear stress here is in the weir concrete body. That differs from the shear stress in fluids which is due to fluid friction with solid surface.
Minor REVISION comments		
Optional/General comments		